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Zegers, M.A.M.; Schuengel, C.; van IJzendoorn, M.H.; Janssens, J.M.A.M.

published in

American Journal of Orthopsychiatry
2006

DOI (link to publisher)

[10.1037/0002-9432.76.3.325](https://doi.org/10.1037/0002-9432.76.3.325)

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Zegers, M. A. M., Schuengel, C., van IJzendoorn, M. H., & Janssens, J. M. A. M. (2006). Attachment representations of institutionalized adolescents and their professional caregivers: Predicting the development of therapeutic relationships. *American Journal of Orthopsychiatry*, 76, 325-334. <https://doi.org/10.1037/0002-9432.76.3.325>

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Attachment Representations of Institutionalized Adolescents and Their Professional Caregivers: Predicting the Development of Therapeutic Relationships

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This study prospectively examined the effects of adolescent ($N = 81$) and professional caregiver ($N = 33$) attachment representations, measured using the Adult Attachment Interview, on therapeutic relationships in a youth treatment institution. After the first 3 months of the clients' stay in the institution, no effects of adolescents' or mentors' (i.e., the professional caregiver assigned) security and type of attachment representations were found. In a subgroup of 28 clients staying for a longer period, more secure adolescents were perceived by their mentors as increasing their secure base use and decreasing avoidance of contact, whereas more secure mentors were increasingly perceived as available as a secure base. Moreover, specific combinations of attachment representations of mentor and adolescent had different effects on adolescent hostility.

Keywords: adult attachment, residential treatment, therapeutic relationships, characteristics of professional workers

The quality of therapeutic relationships is one of the most important nonspecific predictors of treatment success in both outpatient psychotherapy (Horvath & Symonds, 1991) and residential treatment (Pfeiffer & Strzelecki, 1990; Scholte & Van der Ploeg, 2000). The sheer quantity of time that institutionalized clients and their professional caregivers have for interacting with each other, as well as the importance placed within institutionalized treatment on the effect of the "milieu," underscore the importance that has to be attached to the quality of relationships within residential treatment settings. Because part of the therapeutic relationship is about seeking and offering security and care, several authors (e.g., Adshad, 1998; Goodwin, 2003; Schuengel & Van IJzendoorn, 2001; Wallis & Steele, 2001) have speculated that a major determinant of the quality of therapeutic relationships is the mental representation of attachment of both partners in this relationship. Although many clients can be expected to have insecure attachment representations (Van IJzendoorn & Bakermans-Kranenburg, 1996), differ-

ences in the degree of insecurity do exist, and these differences may be important at the outset of treatment. Furthermore, the type of insecure attachment representation could be predictive of the type of interactive problem encountered and could be relevant to selecting an appropriate strategy for approaching the client. Prospective research on this matter is scarce. This study on the attachment representations of institutionalized adolescents and their professional caregivers examines the contribution made by these attachment representations to the development of their relationship.

The "move to the level of representation" (Main, Kaplan, & Cassidy, 1985) has provided insight into how mental representations that parents make of their own attachment predict the quality of intimate relationships, such as the parent-child attachment relationship (see Van IJzendoorn, 1995, for a meta-analysis) and marital relationships (see Crowell, Fraley, & Shaver, 1999, for a review). Attachment representations are defined as "a set of conscious and/or unconscious rules for the organization of information [regarding attachment-related experiences, feelings and ideations] . . . and for obtaining or limiting access to that information" (Main et al., 1985, p. 67).

The Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984/1996), with accompanying scoring and classification systems (Main & Goldwyn, 1985/1998), was developed to assess attachment representations. The quality of the attachment representation is derived from a person's narrative about his or her own attachment history. If an individual talks freely about attachment experiences in a balanced, coherent, and realistic way, regardless of whether those experiences were predominantly positive or negative, he or she is considered to have developed an autonomous

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This study was supported by a grant from the Department of Justice of the Dutch Government. The authors acknowledge the assistance of the board and staff of the OG Helderstichting, Zetten, Netherlands.

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attachment representation. In addition to being highly coherent, autonomous persons tend to reflect during the interview on the impact of their attachment experiences on their development and openly value attachment as part of their lives. Low coherence is accompanied by distinct patterns of speech that indicate either a dismissive or preoccupied stance toward attachment relationships. *Dismissing of attachment* describes a discourse that implicitly or explicitly devalues attachment relationships and experiences. These speakers often claim no memory of attachment-related experiences in childhood or use positive or normalizing general descriptors for attachment to their parents, without supporting these with actual recollections. These responses are explained by a deactivating strategy to minimize attention to attachment and to attachment experiences (Kobak, Cole, Fleming, Ferenz-Gilles, & Gamble, 1993). *Preoccupied with or by early attachments or past experiences* describes a discourse on past or present attachment relationships that is characterized by anger or passivity. These responses are explained by a hyperactivating strategy, which focuses attention on attachment and attachment-related recollections and events. In addition to these general patterns of speech about attachment, speech concerned with specific frightening experiences such as abuse or loss associated with attachment figures may be disorganized, erratic, or indicative of disorganized reasoning. Such speech shows the person to be unresolved/disorganized with respect to these experiences.

Main et al. (1985) theorized that attachment representations develop during late childhood and adolescence on the basis of internal working models of attachment relationships with parents and other attachment figures. Although attachment representations are presumed to be open to revision, resistance to change increases with development. This is because attachment representations shape the way an individual interacts with his or her social environment in two ways. They underlie interpretation of the behavior of significant others, and they lead to social behaviors that create expectations on the part of those significant others regarding the individual. The attachment representation is thought to influence the processing of attachment-related information, such as attending to attachment-relevant cues, interpreting responses as responsive or rejecting, and expecting fulfillment of attachment needs or not (e.g., Kobak, Cole, Fleming, Ferenz-Gillies, & Gamble, 1993). Thus, attachment representations can be regarded as a mediating process between preceding attachment experiences and forthcoming attachment experiences, for example, in new relationships in which attachment and caregiving are taking place.

Attachment representations have been found to be a strong predictor of the quality of the developing attachment relationship between parents and children, and parental sensitivity partly mediates this correspondence (see De Wolff & Van IJzendoorn, 1997, and Van IJzendoorn, 1995, for meta-analyses). A biological relationship does not seem to be a requirement. Dozier, Stovall, Albus, and Bates (2001) found that foster parents' attachment representations were strongly predictive of the quality of attachment relationships with their foster children. Secure base interactions within engaged couples were predicted by their respective attachment representations in a study by Crowell et al. (2002). In a pioneering study in the field of mental health care, Dozier, Cue, and Barnett (1994) also found that case managers' attachment representations had an influence on therapeutic outcome. They speculated that case managers with insecure attachment representations failed to

challenge clients' attachment representations, confirming rather their existing models of relationships. Moreover, Tyrrell, Dozier, Teague, and Fallot (1999) found that the attachment representations of both client and therapist influenced the therapeutic process. These authors showed that the treatment process was optimal when dismissing clients worked with secure case managers tending toward preoccupied attachment and when preoccupied clients worked with secure case managers tending toward dismissing attachment.

Attachment Representations and Relationships in Residential Treatment

Because the attachment representation is established on the basis of early experiences within close relationships, clients in treatment institutions, who often have histories of abuse, neglect, and parentification, are expected to have very insecure attachment representations. Using the AAI, Wallis and Steele (2001) and Schleiffer and Müller (2003) indeed found attachment representations among institutionalized adolescents to be mostly insecure. An earlier study by Van IJzendoorn et al. (1997) on 40 violent criminal offenders with personality disorders in two Dutch forensic psychiatric hospitals also showed that attachment representations were highly insecure. Only 5% were classified as autonomous, in comparison with 56% in nonclinical samples. Also worthy of note was the high percentage (53%) of unresolved/disorganized subjects (subjects with opposing attachment classifications were also included in this group; see the Method section for a description of these categories). Many offenders had experienced separation from or loss of parents or had been institutionalized during childhood. Subjects who had experienced more attachment disruptions were more insecure in their attachment representations.

In addition to assessing clients' attachment representations, Van IJzendoorn et al. (1997) asked therapeutic staff (psychiatric nurses) to rate their clients' contact problems, using the Dutch Forensic Staff-Patient Interactions Inventory (DFSPI; Derks & Verhagen, 1991). Attachment insecurity proved to be positively associated with hostility and domination. This finding underscored the potential relevance of attachment research for understanding barriers to healthy therapeutic relationships in residential treatment.

The Present Study

Very little research has documented attachment processes within residential settings. The current study took place in a treatment institution in the Netherlands offering intensive educational guidance to juveniles at risk because of delinquency, substance abuse, severe behavior problems and emotional problems, or family problems such as neglect or abuse. The adolescents had been placed in the institution by court order, almost always involuntarily. The focus was on dyadic relationships that would be a likely context for interactions characterized by attachment and caregiving. From the several caregivers who work in shifts with the group, one is assigned to the adolescent as a mentor, responsible for providing information and emotional and practical support (Schuengel & Van IJzendoorn, 2001). The mentor was therefore chosen as the focal caregiver.

Previous studies of attachment in residential treatment (Schleiffer & Müller, 2003; Van IJzendoorn et al., 1997; Wallis & Steele, 2001) have been focused either on attachment representations or on social behavior that was not relationship-specific. In the current study we aimed to assess the attachment representations of both partners in the relationship, as well as general and relationship-specific social behavior. Because attachment processes may unfold during the course of treatment, the study was done prospectively. With respect to relationship-specific behavior we included the clients' and mentors' views on the degree to which the mentor provided his or her client with support (provision of secure base or psychological availability) and the degree to which the client sought such support (secure base use or reliance on adult). These attachment-related dimensions of the relationship were assessed from both mentors' as well as clients' perspectives. In addition, in the current study we built on Van IJzendoorn et al.'s (1997) results by assessing general contact problems with staff.

The first research question was the kind of attachment representations the clients and mentors had, compared with clinical and nonclinical groups. The history of clients within this institution and results from other studies (Schleiffer & Müller, 2003; Van IJzendoorn & Bakermans-Kranenburg, 1996; Van IJzendoorn et al., 1997; Wallis & Steele, 2001) led us to expect that attachment representations would most often be dismissing, preoccupied, or unresolved/disorganized. Mentor attachment representations were not expected to differ from the normative distribution.

The second question was whether the attachment representations of mentor, adolescent, and the combination of both (following Tyrrell et al., 1999) were associated with their perceived relationship and, in addition, with mentor-reported problematic contact behavior. Attachment representations of adolescents and mentors were assessed soon after admission and relationship perceptions were studied longitudinally.

Our third research question therefore concerned the predictive association between the mentors' and adolescents' attachment representations on admission and changes in relationship perceptions between 3 and 10 months after admission.

Method

Participants

The institution. The study took place in 1 of the 15 youth treatment institutions in the Netherlands. Adolescents had been placed in the institution by court order, 93% at the request of child protection agencies and 7% (mainly boys) because they had committed a serious offense. The adolescents suffered from severe emotional and behavioral problems. According to Boendermaker (1999), they had a long history of treatment and unstable family situations. In many treatment files, mild (38%) or severe (35%) attachment problems were reported.

The institution was a mixture of closed regimens (10 beds, girls only), semiclosed groups (8 boys, 10 girls, and 57 places in mixed groups), semiclosed individual places (40, for boys or girls), and open (10 places for boys or girls) regimens. During the course of treatment, adolescents experienced different regimens depending on their progress. Girls were over-represented in the institution (60% of places). The aim of treatment was to stimulate "positive personality development" and to create real prospects for the future. Each adolescent was assigned a mentor, a member of the group of caregiving staff. Assignment was unsystematic, although in some cases the gender of the mentor was taken into account. The mentor was responsible for observing the adolescent and facilitating communication

between the adolescent, therapeutic staff, agencies, and parents. Mentors were not explicitly instructed to develop attachment relationships with the adolescents.

Adolescent participants. Between the years 1998 and 2000 about 165 adolescents were placed in the treatment institution. Age on admission ranged from 13 to 20, with a mean age of 15.8 ($SD = 1.3$). After a process of informed consent and the written permission of parents and the family social worker, 99 adolescents agreed to participate (26 boys and 73 girls). The duration of stay ranged from 2 to 35 months ($M = 14$ months, $SD = 9$). Usable data were not obtained from all adolescents. Seven adolescents left the institution prematurely, and 2 withdrew their consent. In the case of 9 adolescents, it was not possible to conduct the AAI within the 3 month period after admission. The AAI was ultimately conducted with 81 adolescents. Permission to perform the study was granted by the institutional review board of the Faculty of Social and Behavioral Sciences, Leiden University.

Mentor participants. AAIs were conducted with 33 mentors (20 men and 13 women) who agreed to participate in this study. Six mentors refused to participate in the AAI, but did participate in the other assessments, and 5 refused to participate at all. Nine participating mentors were assigned to more than one adolescent; as a result, the AAI data for 50 mentor-adolescent couples were available. Analyses of a restricted subset of adolescents paired with a unique mentor (at random one adolescent was chosen if there were several adolescents for a given mentor) revealed no substantive differences in associations found. The Results section is therefore based on the full sample.

Measures

This study had a longitudinal design. Adolescents were followed during their admission to the treatment institution. After informed consent was obtained, the AAI was held with the adolescent. Adolescent and mentor questionnaires were filled out 3 months after admission, and the same questionnaires were completed again at between 9 and 12 months ($M = 10.5$ months). Mentor AAIs were conducted only with the adolescents' first mentor.

Adult Attachment Interview (AAI). The AAI is a semistructured interview about childhood experiences relating to the subject's parents, the subject's views on the influence these experiences might have had, and the current relationship with the parents. Participants are also questioned about loss of loved ones and about other traumatic experiences. The Main and Goldwyn (1985/1998) coding system is used by trained and reliable coders to produce classifications based on verbatim transcripts of audiotaped interviews. Each interview first is first scored on several 9-point rating scales. The most important scale is coherence of discourse about attachment, which is the scale used to decide whether an attachment representation is autonomous or nonautonomous.

On the basis of rating scales, a transcript is then classified in one of the following attachment representation categories: Dismissing (Ds), Autonomous (F), or Preoccupied (E). These main categories have subcategories to improve specificity (Ds1–Ds4, F1–F5, and E1–E3). A transcript classified as Ds indicates a deactivating strategy (Main, 1990) with respect to potentially painful memories, either by claiming few memories of childhood or through idealization of one or both parents or derogatory dismissal of attachment or attachment figures. When negative experiences are acknowledged, the person often claims not to be negatively affected. A transcript is classified as F if the participant is able to approach attachment experiences, even negative ones, in a reasonably objective and coherent manner. If an experience was negative, the person identifies and acknowledges the possible impact on the self. Chief markers for a classification as E are either vague or actively angry discourse. Both types of discourse signify a continuing involvement and preoccupation with attachment experiences. When the opposing strategies of Ds and E are both markedly present in a transcript, it is classified as Cannot Classify (CC). CC cases are

rare in normal populations but are more prevalent in clinical samples (Hesse, 1996). Independent from secure or insecure mental representation of attachment, an Unresolved/disorganized (U/d) classification is assigned if lapses in the monitoring of reasoning or discourse appear in the discussion of loss or trauma experiences or if the participant describes extreme behavioral reactions in connection with these experiences. Transcripts primarily classified as U/d also receive a secondary classification as Ds, F, E, or CC. Satisfactory test-retest reliability and discriminant validity for the AAI have been reported in several studies (Bakermans-Kranenburg & Van IJendoorn, 1993; Crowell et al., 1996; Sagi et al., 1994).

One third of the AAIs were double coded independently by three coders (C. Schuengel and M. H. van IJendoorn, who have participated in two training workshops led by Mary Main and Erik Hesse; and Sandra den Hollander, who has participated in a training workshop by David and Deanne Pederson). All coders had certified their reliability with Main and Hesse on 30 cases. Inter-coder reliability on the basis of 20 interviews was sufficient for the four-category classification (85% agreement between second and third author; $\kappa = 0.77$; 84% agreement between M. H. van IJendoorn and S. den Hollander, $\kappa = 0.77$). Intraclass correlation coefficients for the rating scale for coherence exceeded .90. Kappas for the distinction between autonomous/nonautonomous transcripts were .62 and .88 (but the distributions were very uneven), and kappas for the distinction between transcripts with a deactivating versus a hyperactivating style (see below) were .68 and .78. In 6 cases classification was reached on the basis of consensus between the two coders.

To avoid overclassification of the nonautonomous classifications, coders were kept blind to the status of the adolescents by giving them a mix of interviews with institutionalized adolescents and with adolescents living at home. All information that could identify the status of the adolescents (living at home/in an institution) was removed from the transcripts, and they were mixed with transcripts relating to adolescents who had completed treatment.

Dutch Forensic Staff-Patient Interactions Inventory (DFSII). Derks and Verhagen (1991) developed this 41-item (4-point Likert scale) questionnaire in a forensic hospital setting on the basis of a distinction between absence and abuse of contact (Feldbrugge, 1986). It consists of six scales with Cronbach's alphas (Derks & Verhagen, 1991) between .66 and .88. The scales (with alphas of the present study) are angry dominance (.72), rejection (.75), inaccessibility (.75), hostility (.85), lack of empathy (.81), and submission (.49). A factor analysis produced three factors. The scales rejection, lack of empathy, and inaccessibility formed one factor: absence of contact. A second factor consisted of angry dominance and hostility and can be interpreted as hostile abuse of contact. A third factor can be interpreted as dependent abuse of contact and consists of the scale submission. In the present study the absence of contact and hostile abuse factors were used. As in Van IJendoorn's study, the third factor (dependent abuse) was not used in the present study because of the unacceptably low alpha reliability (.49). Mentors were asked to fill out the questionnaire at 3 and between 9 to 12 months after the adolescent's admission.

Psychological Availability and Reliance on Adult (PARA). Two scales of the PARA questionnaire (Zegers & Schuengel, 2006) were developed to assess the basic elements of attachment (Bowlby, 1982): psychological availability of a secure base and reliance on a secure adult base. The items of these two scales were derived from Kobak and Hazan's (1991) marital Q-sort. The questionnaire was developed for asymmetrical relationships. Consequently, the PARA assesses the two scales in one direction and not vice versa: the psychological availability of the adult for the adolescent (for example: "My mentor is warm and understanding"; "I am warm and understanding to my pupil") and the reliance of the adolescent on the adult (for example: "Whenever I'm distressed I ask my mentor for support or advice"; "Whenever my pupil is distressed he asks me for support or advice"). Participants were asked to respond to each of the 14 items on a 4-point Likert scale of agreement.

The PARA questionnaire has been shown to be reliable and valid in a series of validation studies (Zegers & Schuengel, 2006). Content validity was confirmed by a factor analysis on 84 high school students. The internal consistency of the scales was judged to be satisfactory (between .67 and .84). Convergent validity was found with Rohner's (Rohner, Saavedra, & Granum, 1978) acceptance-rejection scale in a separate sample of 250 preadolescent children (mean age 11.3 years). Furthermore, although working models with respect to mother and father were intercorrelated ($r = .65$, $p < .001$), PARA scores predicted the acceptance-rejection scores of the same parent, independent of the prediction by the PARA scores by the other parent. In another sample of 77 adolescents (mean age 12.7 years), PARA scores were moderately to strongly correlated with the Family Environment Scales (Moos & Moos, 1986) filled in by the adolescent and weakly to moderately correlated with Family Environment Scales filled in by a parent. The PARA has also been found to be negatively associated with internalizing behavior problems, not associated with externalizing behavior problems, and positively associated with prosocial behavior, controlling for background variables and the tendency to give socially desirable answers in a sample of 439 male adolescents, who were all members of sport clubs (Dirks, Stams, Biesta, Schuengel, & Hoeksma, 2003). Cronbach's reliability coefficients in the current sample were between .65 and .81. Although a reliability of .65 for psychological availability of the mentor for the adolescent as reported by the mentor was marginal, it was retained in the analyses to allow parallel analyses for adolescents and mentors. A skewness transformation was done on the psychological availability scale before conducting the analyses. The PARA questions were presented orally to the adolescents; the mentors filled out the questionnaires themselves.

Data Analysis

Multivariate analyses of variance were used to test whether there were differences between the four attachment representations separately for adolescent and mentor on outcome variables at 3 months. Repeated measures and correlational analyses were conducted to test whether attachment representations had an effect on changes in relationship perceptions over time. Using the full range of AAI classifications to examine the interaction effect of the AAI adolescent factor and the AAI mentor factor on outcome measures was not possible, however, because of the ratio of cells to subjects. A similar problem occurred in the one-way analyses of variance at 10 months using the four categories of the AAI, due to a large number of adolescents who were moved elsewhere between 3 and 10 months after placement (because they failed to return after home leave, had to be held in a more secure setting, or completed treatment). The number of subjects decreased from $N = 81$ (AAI adolescents) at 3 months to $n = 40$ (PARA questionnaire adolescents) at 10 months. To make it possible to study interaction effects and to conduct repeated measures analyses, AAI classifications were dichotomized on autonomous attachment and activation style. Activation style could be deactivating or hyperactivating. Dismissing as well as autonomous transcripts with subclassifications F1 ("some setting aside of attachment") and F2 ("somewhat dismissing or restricting of attachment") were labeled deactivating; transcripts classified as preoccupied and autonomous transcripts with subclassifications F3 ("secure/autonomous"), F4 ("some preoccupation"), and F5 ("somewhat resentful/conflicted") were labeled hyperactivating. Subjects classified as CC were also included in the hyperactivating group. On both factors primarily disorganized transcripts (U/d) were categorized on the basis of their secondary classification. Frequencies of dichotomized classifications for adolescents and mentors are shown in Table 1.

As shown in Table 1, the group of adolescents was more equally divided on the activation style dimension than on the autonomy dimension, whereas mentors were more equally divided on autonomy than on activation style. Cross-tabulations of adolescent and mentor classifications resulted for some of the combinations in cell counts that were too low for

Table 1
Distributions of Classifications on the Autonomy Factor and Activation Style Factor Based on Adult Attachment Interview (AAI) Classifications

Factor	Categories	Original AAI classification	Adolescents	Mentors
Autonomy	Autonomous	F	8	18
	Nonautonomous	Ds, E, CC	73	15
Activation style	Deactivating	Ds, F1, F2	44	9
	Hyperactivating	F3, F4, F5, E, CC	37	24

Note. If the primary AAI classification was Unresolved/disorganized (U/d), assignment to the categories of the autonomy and activation style factors was based on the secondary classification. Ds = Dismissing, F, F3 = Autonomous, F1/F2 = Autonomous with dismissing features, F4/F5 = Autonomous with preoccupied features, E = Preoccupied, CC = Cannot classify.

statistical analysis. As a result, only the combination of the deactivation/hyperactivation dichotomy in adolescents with the autonomous/nonautonomous dichotomy in mentors was tested. The number of subjects in cross-tabulations of adolescent activation style with mentor autonomy was $n = 13$ for deactivating adolescents with nonautonomous mentors, $n = 10$ for deactivating adolescents with autonomous mentors, $n = 8$ for hyperactivating adolescents with nonautonomous mentors, and $n = 16$ for hyperactivating adolescents with autonomous mentors. Because of the small number of autonomous adolescents, the effect of the degree of autonomy on the relationship with the mentor was assessed by using the continuous AAI coherence of transcript scale. Correlational analyses of the AAI coherence of transcript scale and the dependent variables were conducted. The coherence of transcript scale strongly correlated with dichotomized autonomy scores ($r_{pb} = .65, p < .001$).

A relatively large proportion of adolescents left the institution before the second follow-up (38 of 81; 47%). Comparison on dependent and independent variables revealed that those who stayed had significantly higher coherence scores than those who left ($M = 3.01, SD = 1.28$ vs. $M = 2.51, SD = 0.92$). On the level of classifications, there were no significant differences. Furthermore, only subjects who did not change in dorm group (which entails assignment of a new mentor) between 3 and 10 months ($n = 30$) were included in repeated measures analyses with mentor AAI classification as the independent variable. The number of adolescents who did experience discontinuity of mentorship was too small ($n = 13$) to analyze separately. At 3 months, adolescents who later on experienced discontinuity of mentorship because of a change in dorm group did not differ on the dependent and independent measures from the adolescents who experienced continuity.

Intra-informant associations between attachment classifications and the relationship questionnaires were not used, because insecure attachment representations may negatively influence actual relationships whereas they

may positively influence evaluation of these relationships. Only cross-informant associations were therefore examined.

Results

Attachment Representations

The first research question concerned the distributions of adolescents' and mentors' attachment representations, compared with those of clinical and nonclinical norm groups. Tables 2 and 3 present this information for the adolescents and mentors, respectively. AAI classifications of the adolescents and mentors in this sample were compared with norm groups from a meta-analysis of 33 studies of clinical and nonclinical groups (Van IJzendoorn & Bakermans-Kranenburg, 1996). For adolescents, a comparison was also made with other studies within treatment institutions for adolescents (Schleiffer & Müller, 2003; Wallis & Steele, 2001). Multinomial comparisons of the contingency tables (Kroonenberg, 1998) revealed that except for the preoccupied (E) classification, the other non-autonomous classifications (Ds and CC or U/d) were significantly more prevalent among the institutionalized adolescents than among the norm group of adolescents (Goodness of fit $\chi^2 = 56.04, df = 3, N = 81, p < .001$, standardized residuals > 1.96), whereas the 7% of Dutch institutionalized adolescents with autonomous classifications was significantly less than the 48% found in the non-clinical norm group (standardized residuals > 1.96). The Dutch distribution of AAI classifications was significantly different from British ($\chi^2 = 11.97, df = 3, N = 120, p < .01$) but not from the German ($\chi^2 = 5.04, df = 3, N = 153, p > .05$).

Table 2
Distribution of Attachment Representation Classifications in the Dutch Institutionalized Adolescents Sample and in Institutionalized and Noninstitutionalized Adolescents Samples

Attachment representation	Study sample (%)	Nonclinical norm group (%) ^a	Institution England (%) ^b	Institution Germany (%) ^c
Dismissing	36 (44)	47 (21)	9 (23)	28 (39)
Autonomous	6 (7)	107 (48)	3 (8)	3 (4)
Preoccupied	15 (19)	27 (12)	3 (8)	8 (11)
Unresolved and cannot classify	24 (30)	44 (19)	24 (62)	33 (46)
<i>N</i>	81	225	39	72

^a Combined sample distribution derived from Van IJzendoorn and Bakermans-Kranenburg (1996), ^b Wallis and Steele (2002), and ^c Schleiffer and Müller (2003).

Table 3
Distribution of Attachment Representation Classifications in the Mentor Sample and in Normal Adults

Attachment representation	Mentors (%)	Normal adults
Dismissing	4 (12)	116 (16)
Autonomous	18 (55)	407 (56)
Preoccupied	5 (15)	71 (10)
Unresolved and cannot classify	6 (18)	134 (18)
N	33	728

Note. Combined sample distribution for normal adults derived from Van IJzendoorn and Bakermans-Kranenburg (1996).

institutions. The Dutch institution had relatively fewer adolescents classified as U/d or CC, and more adolescents classified preoccupied (E) or dismissing (Ds). To test whether there was a sex effect on the distribution of attachment representations among the adolescents, an omnibus chi-square test was conducted of sex with AAI classifications. Although this overall test was significant ($\chi^2 = 8.37$, $df = 3$, $N = 81$, $p = .039$), all standardized residuals remained lower than 1.96, which indicated no significant differences in cell size.

Distribution of AAI classifications among mentors was not significantly different from distribution in a norm group of adults (Goodness of fit $\chi^2 = 1.30$, $df = 3$, $N = 33$, $p > .05$). Male and female mentors did not have significantly different attachment representations.

A two-way contingency table analysis was conducted to test whether the adolescents' attachment representations were related to the attachment representations of their mentors. As expected, no significant relationship was found between adolescent and mentor AAI ($\chi^2 = 8.59$, $df = 9$, $N = 47$, $p = .48$).

Effect of adolescent attachment representations on mentor relationship perceptions. MANOVA revealed no significant differences between the four categories of adolescent attachment on mentor-perceived psychological availability and reliance on adult (PARA), as well as contact problems (DFSI), at 3 months into treatment. In addition, no significant interaction effects were found between adolescent and mentor attachment classifications.

Repeated measures analyses to test whether the change between 3 and 10 months in mentor perceptions of the adolescent-mentor relationship was different for each adolescent attachment representation revealed no significant effects. Correlational analyses of adolescent coherence of transcript scores and mentor PARA and DFSI difference scores were conducted. As shown in Table 4, correlations between coherence of adolescents' AAI transcript and difference scores and mentor PARA and mentor DFSI scores were significant for the DFSI scales "no contact" ($r = -.43$, $p < .05$) and for the PARA scale "reliance on adult" ($r = .49$, $p < .001$). The higher the coherence of the adolescent, the stronger was the decrease in avoidance of contact and the increase in reliance on the mentor.

Effect of mentor attachment representations on adolescent relationship perceptions. MANOVA revealed no significant differences between the four categories of mentor attachment on adolescent-perceived psychological availability and reliance on adult (PARA) at 3 months into treatment. In addition, no significant interaction effects were found between adolescent and mentor attachment classifications.

Repeated measures MANOVAs were conducted to test whether mentor attachment representations (autonomous/nonautonomous) had an effect on the change in adolescent relationship perceptions between 3 and 10 months. The multivariate effect ($N = 21$) was significant, Wilks' lambda = .61, $F(2, 18) = 5.76$, $p = .012$. The multivariate η^2 based on Wilks' lambda was .39. The univariate Time \times Mentor Attachment interaction effect was significant for psychological availability (skewness transformed scores), $F(1, 19) = 10.59$, $p = .004$, with $\eta^2 = .36$. Psychological availability of nonautonomous mentors decreased in the perception of adolescents, whereas the perceived psychological availability of autonomous mentors increased between 3 and 10 months. The effect of mentor attachment representations on change in reliance on adult was marginally significant ($p = .057$). Reliance on nonautonomous mentors decreased between 3 and 10 months, whereas reliance on autonomous mentors increased within the same time.

Effect of combined mentor and adolescent AAI on their relationship and interaction perceptions. Repeated measures MANOVAs were conducted to test the effect of a combination of mentor AAI autonomy and adolescent AAI activation style on their relationship perceptions. Although a within-subject effect of time was not found, a significant multivariate between-subjects interaction effect was present for the combination of attachment representations of mentor and adolescent on mentor-reported adolescent contact problems (DFSI, $N = 20$), Wilks' lambda = .53, $F(2, 15) = 6.63$, $p = .009$. The multivariate η^2 based on Wilks' lambda was .47. The univariate interaction effect was significant for abusive hostility, $F(1, 16) = 7.08$, $p = .017$, with $\eta^2 = .31$. On average at 3 and 10 months, hyperactivating adolescents were perceived as more hostile by nonautonomous mentors, whereas deactivating adolescents were perceived as more hostile by autonomous mentors.

Discussion and Conclusion

After 3 months of treatment, no effects of adolescents' and mentors' attachment representations on perceptions of psychological availability of the mentor, reliance by the adolescent on the mentor, and contact problems were as yet determinable, even though adolescents' attachment representations showed considerable variation (particularly among the various categories of nonautonomous attachment representation) as did attachment repre-

Table 4
Correlations Between Change in Relationship Characteristics Perceived by the Mentor Between 3 and 10 Months After Admission and Adolescent Coherence on the Adult Attachment Interview (AAI)

	Adolescent AAI coherence
Δ Psychological availability ^a	.37†
Δ Reliance on adult ^a	.49**
Δ No contact ^b	-.43*
Δ Abusive hostility ^b	-.33†

^a Mentor version of the Psychological Availability and Reliance on Adult Questionnaire ($N = 28$). ^b Dutch Forensic Staff-Patient Interactions Inventory.

* $p < .05$. ** $p < .001$. † $p < .10$ (two-tailed).

sentations of mentors. Attachment representations did, however, predict changes occurring between 3 and 10 months after admission in perceptions of these aspects of social relations. The more coherent the attachment representation of the adolescents was, the stronger the increase in reliance on the mentor and the stronger the decrease in avoiding contact with staff (both as reported by the mentor). The effect of adolescents' coherence on diminishing hostile contact abuse by the adolescents and increasing availability of the mentor was marginally significant. Furthermore, mentors' attachment representations were predictive of changes in adolescents' perceptions: Between 3 and 10 months after adolescents were assigned to a mentor, the perceived psychological availability increased for autonomous mentors whereas it decreased for non-autonomous mentors. There were no significant effects of combinations of mentor and adolescent attachment representation, except that the combination of attachment representations of mentor and adolescent had a significant effect on mentor-reported adolescent hostility over the period of 3 to 10 months after admission. Hyperactivating adolescents were perceived as more hostile by nonautonomous mentors, whereas deactivating adolescents were perceived as more hostile by autonomous mentors.

The results take those found by Van IJzendoorn et al. (1997) a step further. They reported an association between insecurity of attachment representations and hostile contact problems among adult offenders with severe personality disorders. Their study was cross-sectional, and the time that clients and staff had spent together in the institution at the time of the assessment was variable. The prospective design of the current study made it possible to show that attachment representations predict the direction of change in perceptions of social relations. This finding is consistent with the view, based on attachment theory, that perceived quality of social relations is a function of accumulated relational experiences and that these relational experiences are at least partly a function of the person's own attachment representation and that of the relational partner. However, another explanation might be possible. Placement in an institution might be a life event that temporarily disrupts habitual patterns of behavior. After a while, the client adapts and becomes his or her usual self. For more secure individuals, the placement would be a negative disruption and the return to usual social behavior a positive process. For more insecure individuals, the placement might have a temporary positive effect by interrupting ongoing patterns of insecure attachment interaction and making it possible to expose them to more positive attachment interactions. Unfortunately, the insecure adolescents in this institution seemed to be returning to a more avoidant and sometimes hostile style of engagement with the group care staff.

Limitations and Directions for Research

An important drawback to the prospective design was its vulnerability to attrition in terms of subjects. The study unfortunately took place in a period when institutions were required to discharge pupils who failed to return after home leave for 2 weeks or more. There is some evidence for self-selection, as the group of adolescents who stayed until the 9-month follow-up were on average slightly more coherent than adolescents who left. It is important to note, however, that the self-selection refers to treatment in the institution not to participation in the study. Furthermore, the analyses were done on change scores, which means that every subject

is his or her own control. The limit posed by attrition is that the effects exerted by attachment representations on changes in the relationship as found in the study can only be generalized to adolescents who stayed for 10 months; the study results might therefore have been somewhat different if the policy on runaway pupils had been different. In addition, after 10 months the sample was fairly small, limiting statistical power and limiting opportunities to test for complex effects and effects of specific attachment categories. Including more subjects at the outset of the study would have been difficult due to limits posed by the size of the cohort that entered the institution during the study period.

The current study focused on two dimensions central to attachment in relationships, namely psychological availability (or secure base provision) and reliance on adult (or secure base use). Furthermore, social behavior across relationships with group care workers (contact avoidance and hostility) was studied. Over time, effects were found of attachment representations at both the dyadic and the group level. Although it is presumed that attachment behavior is only shown selectively, to a limited number of attachment figures, we did not test whether reliance on group care workers other than the mentor also increased. It is therefore unclear whether the increase in reliance on the mentor found in more coherent adolescents should be interpreted as the start of a selective attachment relationship. To answer questions about the selectivity of attachment behavior, future researchers might attempt to study changes in quality of all dyadic relationships in adolescents' networks.

To study the effects of attachment representations by using self-report measures as dependent variables inevitably raises methodological questions. By their very nature, attachment representations influence the way people perceive and process attachment-related information. It is not unlikely that attachment representations influence actual relationship quality and reported relationship quality in opposite directions. In that case, associations that are expected in a particular direction may be weak, nonsignificant, or even run contrary to expectation. This limitation was overcome by assessing perceived quality of the relationship in both partners. As a result, the associations found cannot be explained by shared informant bias. The only exceptions were analyses in which interaction effects of adolescent and mentor attachment representations on mentor-perceived hostile behavior by the adolescent were examined. Therefore, one interpretation of this finding may be that the effect of mentor attachment representation on development of contact problems is moderated by the adolescents' attachment activation style. Another interpretation might be that the effect of adolescent attachment representations on contact problems is perceived differently by autonomous versus nonautonomous mentors. As in the other two studies of institutionalized adolescents by Wallis and Steele (2001) and Schleiffer and Müller (2003), the majority of the adolescents in the sample were female, reflecting the population of the participating institutions. The majority of residential institutions, however, treat males. Replication of the study findings in samples with higher percentages of male participants is needed.

The study findings suggest that the therapeutic workers' representation of attachment should be considered as a facilitative or impeding factor in treatment. Over time, mentors with autonomous attachment representations elicited more positive expectations from the adolescents in their care, and (marginally significant) the

adolescents relied more on them as a secure base in times of need and distress. Dozier et al. (1994) and Tyrrell et al. (1999) reported similar findings for case managers and therapists treating adult psychiatric patients. These findings are also consistent with attachment research showing that adults' attachment representations predict attachment relationships with their own children (Van IJendoorn, 1995) and with their marital partner (Treboux, Crowell, & Waters, 2004). Even if the increased reliance on the mentor was not specific to the mentor alone and thus not indicative of the development of an attachment relationship, it may provide the adolescents with positive experiences of secure base support, which may challenge their generally anxious emotions and expectations regarding such support.

Several reasons for attachment representations being associated with functioning within residential treatment could be given. After admission, clients are confronted with a stressful environment that includes other disturbed clients, new rules, and therapy. In this situation they have only limited access to their relational network, if such a network actually exists. If clients experience stress for which their own coping resources are too limited, attachment theory suggests that they become predisposed toward seeking support from a trusted person, perceived as wiser and stronger. This predisposition is essentially the same predisposition they would have had in their relationship with their attachment figures in the past and is therefore likely to activate the attachment representation as the most pertinent mental scheme. Furthermore, if these predispositions result in support-seeking behavior, if that behavior is directed over time toward a specific person, and if that target person offers at least some form of support, the dyadic partners build up a history of interactions that can be described as an attachment relationship (Hinde, 1979; Schuengel & Van IJendoorn, 2001; Waters & Cummings, 2000). Whether attachment relationships in fact develop may be dependent upon the degree of stress experienced, availability of alternative ways of coping and alternative forms of support, degree of separation from existing attachment figures, and clients' attachment representations. Other relevant factors are the way residential care is organized (e.g., number of carers and continuity of care), and personal characteristics of professional caregivers, such as their own attachment representations. Personal convictions and biases toward individualized treatment of clients do seem to determine how residential workers deal with the attachment needs of adolescent clients (Moses, 2000). The studies by Dozier and her colleagues (Dozier et al., 2001; Tyrrell et al., 1999) suggested that these convictions and biases may partly originate from workers' own attachment representations.

Implications for Practice

Several authors have speculated about the consequences for treatment if therapeutic attachment relationships develop, which may happen even if treatment programs are not explicitly focused on building attachment relationships (Adshead, 1998; Goodwin, 2003; Moses, 2000; Schuengel & Van IJendoorn, 2001). These authors have identified potential benefits associated with therapeutic attachment relationships as well as potential pitfalls. The benefits include the effective and strong emotional support flowing from attachment relationships to clients in distress, the provision of a secure base from which to explore different ways of dealing with

stressful experiences and experiment with new behaviors and interpretative schemes, and the corrective experience such a relationship may offer to existing expectations from close relationships. Among the pitfalls is the risk of insecure attachment relationships, resulting from the often extremely insecure or disorganized attachment representation of clients combined with the inability of careworkers to compensate for the insecure perceptions and behaviors that are the result of these attachment representations. An additional pitfall is that an attachment relationship (secure or insecure) that has developed may not be recognized by treatment staff, and may be abruptly cut off when the client is discharged or when the therapeutic worker is transferred, potentially damaging the new-found trust in supportive adults. Consequently, the increase in reliance on therapeutic staff on the part of some adolescents must be viewed as an opportunity for treatment as well as a potential vulnerability.

Tyrrell et al. (1999) found that dissimilarity between types of attachment representations between clients and therapists proved beneficial for treatment process and outcomes. Because of uneven distributions of classifications, it was not possible to test whether this finding could be replicated in the current sample. Only one effect was found for combinations of client and therapist attachment representation, namely that autonomous and nonautonomous mentors differed in their evaluation of hostility of adolescents with deactivating and hyperactivating classifications (for the subgroup of adolescents staying for 10 months or more). However, the questions regarding the possibility for corrective emotional experiences and the need for a certain "match" between therapist and client require answering (Bernier & Dozier, 2002) before matching is recommended or not.

The general view, supported by meta-analytic evidence (Shirk & Karver, 2003), is that the quality of the therapeutic relationship between treatment staff and child and adolescent clients is an important determinant of treatment outcome, especially within residential treatment facilities (Green et al., 2001; Moses, 2000), where placement itself may often have initial adverse effects on trust placed in adults. Knowledge of the determinants of relationship quality is therefore important if treatment is to be optimized. The study findings suggest that especially when the duration of treatment is extended, the personal attachment backgrounds of clients and treatment staff increase in importance. Although the importance of these factors has frequently been argued (e.g., Goodwin, 2003), so far only the studies of Dozier and colleagues (Dozier et al., 1994; Tyrrell et al., 1999) have yielded empirical evidence, at least for adult patients. With mounting evidence for the role of attachment representations and experiences, attachment theory might be applied more broadly in organization, treatment programs, staffing rates, and staff requirements (see Schuengel & Van IJendoorn, 2001, for a review of attachment issues faced in residential treatment).

The findings imply that treatment staff should avoid and, if possible, compensate for attachment experiences that confirm non-autonomous representations of attachment in adolescents in their care. Staff who themselves have autonomous representations may find that easier than staff who do not. If careworkers are successful in providing such experiences, if the client is sufficiently open, and if enough time is available, a relationship may develop, which provides a "holding environment" (Winnicott, 1971) for the adolescent to learn new ways of dealing with challenges originating

from the intrapsychic as well as the outside world. That training caregivers to be more sensitive is possible, even if they have a nonautonomous attachment representation, has been demonstrated by positive results emerging from a controlled study on a short-term, behaviorally focused preventive intervention aimed at breaking the cycle of intergenerational transmission of attachment among mothers with a nonautonomous attachment representations (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2004). Professional caregivers might be trained to attend to the sometimes subtle or confusing attachment signals given by their clients on the assumption that every adolescent away from his or her family might benefit from emotional support. Furthermore, caregivers should become aware that some of their clients might develop an attachment bond as a result of repeated secure base exchanges and should learn to take account of the vulnerability that such a bond entails for the adolescent.

The findings of the current study, despite its limitations, support Bowlby's (1988) view that part of the therapeutic interpersonal process can be understood as an attachment process. This view acknowledges that therapeutic relationships may not always fully develop into attachment relationships proper (Schuengel & Van IJzendoorn, 2001), but the empirical evidence from this study and other studies (Dozier et al., 1994; Tyrrell et al., 1999) shows that the therapeutic process is at least affected by the attachment-related cognitive schemes of both clients and caregivers. The present study underscores this point further by showing that attachment representations have an impact, over time, on dimensions of relationships considered central to attachment, namely the availability and use of a stronger and wiser person as a secure base.

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Received November 24, 2004

Revision received July 19, 2005

Accepted August 21, 2005 ■